

Claims

1. A method for operating an injection valve having at least one piezoelectric actuator (2), a displaceable component (3) and a hydraulic element (9), all of which are disposed in a common housing (8), wherein the stroke of said displaceable component (3) can be reversibly controlled through the application of a drive voltage (U) to said actuator (2), characterized in that said actuator (2) is biased with a bias voltage (UB), said bias voltage (UB) having a bias opposing the polarization direction of the actuator (2).
2. The method according to claim 1, characterized in that the bias voltage (UB) is lower than a voltage that would result in a change in the polarity of the actuator (2).
3. The method according to claim 1 or 2, characterized in that the bias voltage (UB) is used for the purpose of increasing the stroke (Δl_0) of the displaceable component (3).
4. The method according to one of the preceding claims, characterized in that the bias voltage (UB) is determined in such a way that a reduction in the energy consumption occurs for the actuator (2).
5. The method according to one of the preceding claims, characterized in that the drive voltage (U) is specified employing the bias voltage (UB) for the purpose of setting a defined stroke ($\Delta l_0 + \delta$) of the displaceable component (3).
6. The method according to claim 5, characterized in that the volume of injected material is determined by means of the defined stroke ($\Delta l_0 + \delta$) of the displaceable component (3).

7. A control unit for generating a drive voltage (U) for an injection valve (1) having at least one piezoelectric actuator (2), a displaceable component (3) and a hydraulic element (9), all of which are disposed in a common housing (8), wherein the stroke (Δl_0) of said displaceable component (3) can be reversibly controlled through the application of a drive voltage (U) to said actuator (2),, characterized in that said control unit (10) generates a bias voltage (UB) by which the actuator (2) is biased and which opposes the polarization direction of the actuator (2) and in that the drive voltage (U) is embodied to increase the stroke (Δl_0) of the displaceable component (3) using said bias voltage (UB).
8. The control unit according to claim 7, characterized in that the bias voltage (UB) is lower than a voltage that would result in a change in the polarity of the actuator (2).
9. The control unit according to one of claims 7 or 8 characterized by a use in an injection valve (1) for injecting fuel into a gasoline engine.
10. The control unit according to one of claims 7 or 9 characterized by a use in an injection valve (1) for injecting fuel into a diesel engine.